

Executive Summary

ES.1 Purpose and Need

The Connecticut Department of Transportation has prepared a Connecticut Statewide Airport System Plan (CSASP). The purpose of this CSASP is to provide a comprehensive review of the current state aviation system, to support the continued operation and maintenance of Connecticut's airports, and to recommend modifications to the airport system to meet existing and projected aviation needs. This will ensure that Connecticut's airports continue to serve the state's residents and businesses in the most efficient and cost effective manner possible. The CSASP concentrates primarily on airports that are open to the public.

The CSASP documents existing conditions at Connecticut airports and identifies what is necessary to meet current and future air transportation needs in order to establish a viable, balanced and integrated system of airports. The process includes identifying goals, collecting inventory data and formulating forecasts. This information is evaluated to formulate recommendations for better use and improvements to the system to meet the needs of all users and to develop a strategic plan. This CSASP will make recommendations to attempt to ensure the aviation system continues to meet the needs of CT's aviation users. The CSASP is prepared reflecting established policy, the existing system of airports, forecasted requirements, social, environmental and financial constraints, as well as public comment.

Goals for this CSASP

- ☒ Provide a safe and efficient air transportation system for Connecticut.
- ☒ Provide and maintain a statewide aviation system which addresses the needs of all aviation users.
- ☒ Improve and refine existing policies to determine which aviation initiatives should receive support for funding and implementation.
- ☒ Continue efforts to develop Bradley International Airport as a world class facility.
- ☒ Continue efforts to support all public use airports in the State.

This plan provides the framework for detailed airport master planning. It is important for the CSASP to look to the future, as funding and approval processes can be quite lengthy. This plan has been reviewed by the FAA, ConnDOT, individual airport managers, and the general public.

The previous CSASP was published in 1986. Since that time, significant changes have occurred in Connecticut's aviation system and funding policies. Although

recommendations of that system plan have been implemented, a number of new challenges have surfaced which need to be addressed.

ES.2 System Planning

The Federal Aviation Administration (FAA) established the National Plan of Integrated Airport Systems (NPIAS) as a result of the Airport and Airways Improvement Act, signed in 1982. The 2005-2009 NPIAS includes 3,344 airports throughout the United States that are significant to the Nation's Air Transportation System. The NPIAS provides general forecasts of aviation activity and identifies, for a five-year period, the planned capital developments and their related costs, which will be necessary to maintain a safe and efficient air system. For an airport to be eligible for AIP funds it must be included in the NPIAS and be publicly owned or designated as a reliever airport. Connecticut has 15 airports included in the NPIAS. Eleven of these are eligible for federal funding, 10 are publicly owned and one is designated as a reliever. One airport closed in 2004 and the remaining 3 privately owned, open to the public general aviation airports are not eligible for federal funding.

Airport system planning at the state level lies between the FAA national planning as documented in the NPIAS and individual airport master planning. The Connecticut Statewide Airport System Plan (CSASP) feeds information up to the NPIAS and down to the individual airport master plans.

ES.3 Overview

Connecticut was the first state to recognize aviation as a legitimate transportation mode and lay the regulatory groundwork for what would become the federal code of regulations governing air travel. Beginning in 1911 with the enactment of a statute entitled "An Act Concerning the Registration, Numbering and Use of Airships, and the Licensing of Operators Thereof" Connecticut established itself as the leader in civilian aviation in this country and the world. Other firsts include the first licensed airport and the first municipal airport.

The Connecticut airport system is comprised of 153 landing areas that are licensed by the State and/or FAA. The landing areas open to the public are licensed as Commercial and those not open to the public are licensed as Restricted Landing Areas (RLA). Of the 10 publicly owned airports, 6 are owned by the state and 4 by municipalities. There are 13 privately owned, open to the public airports (see Figure ES.1 and Table ES.1). Any Connecticut airport open to the public will accommodate helicopters. There are an additional 32 airports, 6 seaplane bases (see Figure ES.1 and Table ES.2) and 92 heliports that are for private use only. Due to the large number of heliports, they are not addressed in this plan but may be addressed in a subsequent plan. The CSASP concentrates primarily on airports that are open to the public. All of these facilities

Connecticut Statewide Airport System Plan

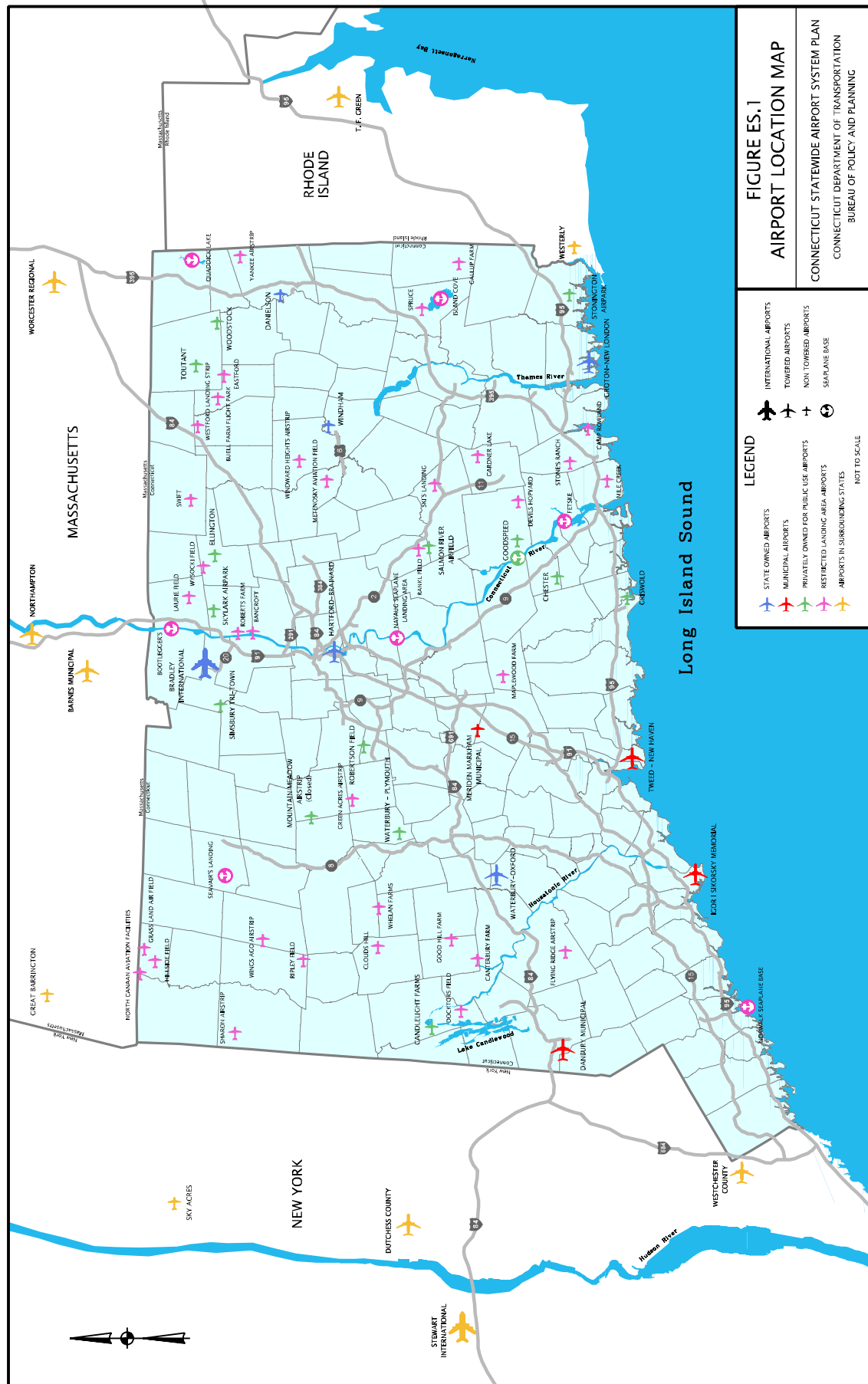


Table ES.1				
Public Use Airports in Connecticut				
Airport Name	Airport ID	Associated Town	Runway Orientation	Runway Dimensions (ft)
State				
Bradley International	BDL	Windsor Locks	06-24	9,510 x 200
			15-33	6,847 x 150
			01-19	5,145 x 100
Groton-New London	GON	Groton	05-23	5,000 x 150
			15-33	4,000 x 100
Hartford-Brainard	HFD	Hartford	02-20	4,418 x 150
			11-29	2,315 x 71
			NE-SW*	2,309 x 150
Waterbury-Oxford	OXC	Oxford	18-36	5,800 x 100
Windham	IJD	Windham	09-27	4,278 x 100
			18-36	2,797 x 75
Danielson	5B3	Killingly	13-31	2,700 x 75
Municipal				
Tweed-New Haven	HVN	New Haven	02-20	5,600 x 150
			14-32	3,175 x 100
Bridgeport-Sikorski	BDR	Bridgeport	06-24	4,677 x 150
			11-29	4,761 x 150
Danbury Municipal	DXR	Danbury	08-26	4,422 x 150
			17-35	3,135 x 100
Meriden-Markham	MMK	Meriden	18-36	3,100 x 75
Private				
Candlelight Farms	11N	New Milford	17-35*	2,900 x 50
Chester	3B9	Chester	17-35	2,566 x 50
Ellington	7B9	Ellington	01-19	1,600 x 50
Goodspeed	42B	East Haddam	14-32	2,120 x 50
			16W-34W**	4,500 x 1000
Griswold	N04	Madison	06-24	1,863 x 50
Robertson Field	4B8	Plainville	02-20	3,612 x 75
Salmon River	9B8	Marlborough	17-35*	2,000 x 60
Simsbury	4B9	Simsbury	03-21	2,205 x 50
Skylark	7B6	East Windsor	10-28	2,642 x 60
Stonington	CT80	Stonington	04-22*	1,700 x 50
Toutant	C44	West Woodstock	17-35	1,756 x 60
Waterbury-Plymouth	N41	Plymouth	02-20*	1,600 x 250
			17-35*	2,005 x 135
Woodstock	64CT	Woodstock	01-19	2,200 x 75
Mountain Meadow ^	22B	Burlington	01-19	3,420 x 40
* Turf Landing Area ** Water Landing Area ^ Airport Closed in April, 2004				

Table ES.2			
Private Use Airports in Connecticut			
Airport Name	Associated Town	Airport Name	Associated Town
Bancroft	East Windsor	Mile Creek	Old Lyme
Buell Farm Flight Park	Eastford	North Canaan Aviation	North Canaan
Clouds Hill	Washington	Rankl Field	Marlborough
Devil's Hopyard	East Haddam	Ripley Field	Litchfield
Docktors Field	Eastford	Roberts Farm	East Windsor
Flying Ridge Airstrip	Newtown	Sharon Airstrip	Sharon
Gallup Farm	Voluntown	Ski's Landing	Colchester
Gardner Lake	Colchester	Spruce Airport	Jewett City
Good Hill Farm	Roxbury	Swift	Stafford Springs
Grass Land Air Field	North Canaan	Westford Landing Strip	Ashford
Green Acres Airstrip	Bristol	Whelan Farms	Bethlehem
Hillside Field	North Canaan	Windward Heights Airstrip	Mansfield
Laurie Field	Hazardville	Wings Ago Airstrip	Goshen
Maplewood Farm	Durham	Wysocki Field	Ellington
Metenosky Aviation Field	Coventry		
Stones Ranch *	East Lyme	Camp Rell *	Niantic
Seaplane Base Name	Associated Town	Seaplane Base Name	Associated Town
Bootlegger's	Enfield	Norwalk Seaplane Base	Norwalk
Fetske	Essex	Quaddick Lake	Thompson
Island Cove	Glasko	Seavair's Landing	Winsted
Nayaug Seaplane Landing Area	Glastonbury		

* - Military Base

provide a vital but varied contribution to the transportation system in Connecticut and an economic benefit (direct & indirect) for the communities they serve (see Table ES.3). Due to the nature of aviation travel, political boundaries have little effect on pilots and aircraft. Therefore, this CSASP considers the influence from airports in the surrounding states of New York, Massachusetts and Rhode Island (see Figure ES.1 and Table ES.4).

Table ES.3		
Economic Impact of State and Municipal Airports		
Airport Name	Economic Benefit	Year study complete
Bradley International	1,730,000,000	2004
Hartford-Brainard	37,199,086	1997
Groton-New London	167,346,112	1995
Waterbury-Oxford	50,000,000	2004
Windham	9,779,452	1997
Danielson	NA	NA
Tweed-New Haven Regional	140,600,000	2001
Igor-Sikorski Memorial	58,553,984	1993
Danbury Municipal	NA	NA
Meriden-Markham	5,418,600	1997

Table ES.4					
Influential Airports Located in Surrounding States					
Airport Name	Airport ID	Associated Town	Owner / Operator	Runway Orientation	Runway Dimensions (ft)
Dutchess County	POU	Poughkeepsie, NY	Dutchess County	06-24	5,001 x 100
				15-33	3,005 x 100
				07-25*	1,358 x 100
Westchester County	HPN	White Plains, NY	Westchester County	16-34	6,548 x 150
				11-29	4,451 x 150
Stewart International	SWF	Newburgh, NY	National Express Group, PLC	09-27	11,818 x 150
				16-34	6,006 x 150
Sky Acres	44N	Millbrook, NY	Private	17-35	3,828 x 60
Barnes Municipal	BAF	Westfield, MA	City of Westfield	2-20	9,000 x 150
				15-33	5,000 x 100
Northampton	7B2	Northampton, MA	Northampton Airport Inc.	14-32	3,365 x 50
Worcester Regional	ORH	Worcester, MA	Worcester / MA Port Authority	11-29	7,000 x 150
				15-33	5,000 x 100
Great Barrington	GBR	Great Barrington, MA	Private	11-29	2,579 x 50
T.F. Green State	PVD	Providence, RI	Rhode Island Airport Corp.	05R-23R	4,432 x 75
				05L-23L	7,166 x 150
				16-34	6,081 x 150
Westerly State	WST	Westerly, RI	Rhode Island Airport Corp.	07-25	4,010 x 100
				14-32	3,960 x 75

* Turf Landing Area

ES.4 Runway Safety Area (RSA)

The Runway Safety Area (RSA) enhances the safety of airplanes that undershoot, overrun or veer off the runway. According to FAA Advisory Circular (AC) 150-5300-13 Airport Design, of the number of airplanes that undershoot or overrun the runway, 90 percent stay within 1000' of the runway end. The dimensions of RSA's are dependent on the design aircraft for the airport and have to be capable of supporting airplanes without causing structural damage to the airplane or injury to its occupants. The RSA also provides greater accessibility for firefighting and rescue equipment during an incident. The Runway Safety Area Programs (FAA Order 5200.8) objective is that all RSA's at federally obligated airports and at airports certified under CFR part 139 (have scheduled commercial service) shall conform to the standards to the extent practicable. The non-conforming RSA dimensions at the State and municipally owned airports in Connecticut are shown in Table ES.5. It also shows the FAA standards for those RSA's.

Table ES.5
Non-Conforming Runway Safety Area Dimensions

<i>Airport Name</i>	<i>Runway Orientation</i>	<i>Existing RSA Dimensions</i>		<i>FAA Standard RSA Dimensions</i>	
		Length*	Width*	Length*	Width*
Hartford-Brainard	02-20	62/295	500	300	150
Groton-New London	05-23^	475/555	420/500	1000	500
Waterbury-Oxford	18-36	920/720	500	1000	500
Windham	09-27	75/20	150	300	150
	18-36	130/130	120	300	150
Tweed-New Haven	02-20^	250/250	500	1000	500
Bridgeport-Sikorski	06-24^	100/0	500	1000	500
	11-29^	1000/100	500	1000	500

*Length – number of feet beyond each end of runway

*Width – total width, using runway centerline as RSA centerline (ft).

^ A project or study is underway or planned for the near future.

ES.5 Security

Changes in security have had a dramatic effect on the airline industry. As a result of the terrorist attacks on September 11, 2001, security has been increased to its most stringent ever, which is a necessary but costly change. Federal monies provided to implement security mandates have not covered the full cost of implementation. To compound this issue, security screening measures have created delays at airports, which in turn cost airlines money and inconvenience travelers. When the traveling public is inconvenienced they often look for other modes of transportation or decide not to travel. While delays have decreased, as the public and screeners have become more accustomed to the new security procedures, the numbers of people traveling has still not fully recovered. This issue has taxed the airlines heavily, which can be seen by the ongoing struggles of airlines to continue operating.

ES.6 Forecasting

A forecast provides an estimate of future conditions that can be anticipated. It is an essential component of any significant planning exercise. However, it is critical that decision-makers temper decisions based on forecasts with an understanding of the general limitations associated with forecasting. Forecasts for this CSASP are to the year 2025.

To create a typical forecast, basic assumptions are made that something can be known about the future by understanding the past. In general, the forecaster identifies cause and effect relationships that are indicated by a high level of correlation between elements over a significant period of time. These forecasts are generally both useful and reliable.

The forecaster, however, is faced with two fundamental and important limitations. The first involves the relevance and accuracy of past data that will be used to develop an estimation of future conditions. The second involves the possibility of significant unforeseen but influential outside factors presenting themselves over time.

The tragic events of September 11, 2001 and the subsequent economic downturn have affected the aviation industry in many ways. The airline industry has experienced record financial losses and some airlines have had to prepare to declare or have declared bankruptcy. Others have reorganized and reduced flights and services while trying to remain in business.

ES.7 Annual Enplanements

As can be seen in Table ES.6 the number of enplanements at Connecticut airports is expected to increase (each boarding passenger is an enplanement). This represents an average increase of 5.8 percent per year for the study, signifying a potential increase of 120 percent above current levels handled by Connecticut airports. The majority of these are forecasted to occur at Bradley International Airport.

Forecasted projections indicate that Connecticut's infrastructure can handle the projected enplanement growth in the study term. The numbers of passengers that will flow through the terminals at Connecticut's commercial service airports (defined as a public airport that enplanes 2,500 or more passengers annually and receives passenger aircraft service) are approximately double the numbers of enplanements expected for the study period. This means that Bradley International Airport (BDL) is expected to service 14.6 million passengers and Tweed-New Haven Regional Airport (HVN) is projected to handle 538,200 passengers in 2025.

Table ES.6 Enplanements		
Airport Name	Annual 2004	Projected 2025
Bradley International	3,366,564	7,310,000
Tweed-New Haven	40,660	269,100
Totals	3,407,200	7,579,100

ES.8 Based Aircraft

Projections for based aircraft for the state at the 23 public use airports are shown in Table ES.7. In 2003, there were 1,766 based aircraft in Connecticut, which is expected to grow to 2,069 in 2025. This represents a growth of 0.7 percent per year for the study period.

The capacity to store based aircraft may be an issue at several airports during the later years in the study timeframe. The airports that are projected to have an additional 25 or

Table ES.7				
Projected Increase in Annual Operations and Based Aircraft				
Airport Name	Annual Operations	Projected Annual Operations	Based Aircraft	Projected Based Aircraft
<i>State Owned</i>	<i>2004</i>	<i>2025</i>	<i>2003</i>	<i>2025</i>
Bradley International	147,500	214,700	83	94
Groton-New London	66,200	114,500	51	94
Hartford-Brainard	101,000	137,800	185	208
Waterbury-Oxford	65,900	87,000	242	287
Windham	33,100	43,700	64	85
Danielson	21,700	29,700	62	95
<i>Municipally Owned</i>				
Tweed-New Haven	64,600	93,600	72	91
Bridgeport-Sikorski	80,500	109,300	248	283
Danbury Municipal	87,100	145,700	229	245
Meriden Markham	19,500	29,500	78	87
<i>Privately Owned</i>				
Candlelight Farms	11,450	14,100	14	16
Chester	21,650	26,700	110	122
Ellington	30,300	37,300	20	22
Goodspeed	7,550	9,300	37	41
Griswold	3,250	4,050	5	6
Robertson Field	61,600	75,900	110	120
Salmon River	750	950	7	8
Simsbury	9,850	12,150	48	53
Skylark	17,600	21,650	71	79
Stonington	50	50	2	2
Toutant	130	130	1	1
Waterbury-Plymouth	1,050	1,250	10	11
Woodstock	100	100	17	19
Mountain Meadow^	13,100	0	23	0
<i>Statewide Totals</i>	<i>852,430</i>	<i>1,209,130</i>	<i>1,766</i>	<i>2,069</i>

^ Airport Closed April, 2004

more based aircraft are Hartford Brainard (HFD), Danielson (5B3) and Bridgeport-Sikorski (BDR), with Groton-New London (GON) and Waterbury-Oxford (OXC) expecting to have an increase of over 40 based aircraft. The other system airports, while expecting an increase in based aircraft, are not expected to experience an increase that would be difficult for them to accommodate.

If an airport cannot accommodate the projected increase in based aircraft, the aircraft will relocate to surrounding airports where there is more space for aircraft storage. This can have an effect on the aviation system by increasing congestion at the airports that these planes relocate to. While the distribution of aircraft to airports throughout the state can

be beneficial, it can cause a burden to smaller airports. The relocation of these aircraft may require additional financial investment to update and expand the facilities to accommodate them.

ES.9 Aircraft Operations

The statewide annual aircraft operations (defined as a take off or a landing, each would be a separate operation) are projected to grow through the study timeframe, as can be seen in Table ES.7. This represents an increase of 42 percent for the study period, which is less than 2 percent per year.

Each airport in the system is expected to be able to accommodate the projected operations for that airport. Airports that will exceed 50 percent of their calculated capacity in 2025 are BDL, GON, HFD, BDR, DXR and 4B8 as can be seen in Table ES.8. FAA recommends additional planning be conducted once an airport reaches 60 percent capacity and that projects to increase and enhance capacity should be implemented when the airport reaches 80 percent. Therefore, future planning for these airports should be taken into account when considering needed improvements for the airport.

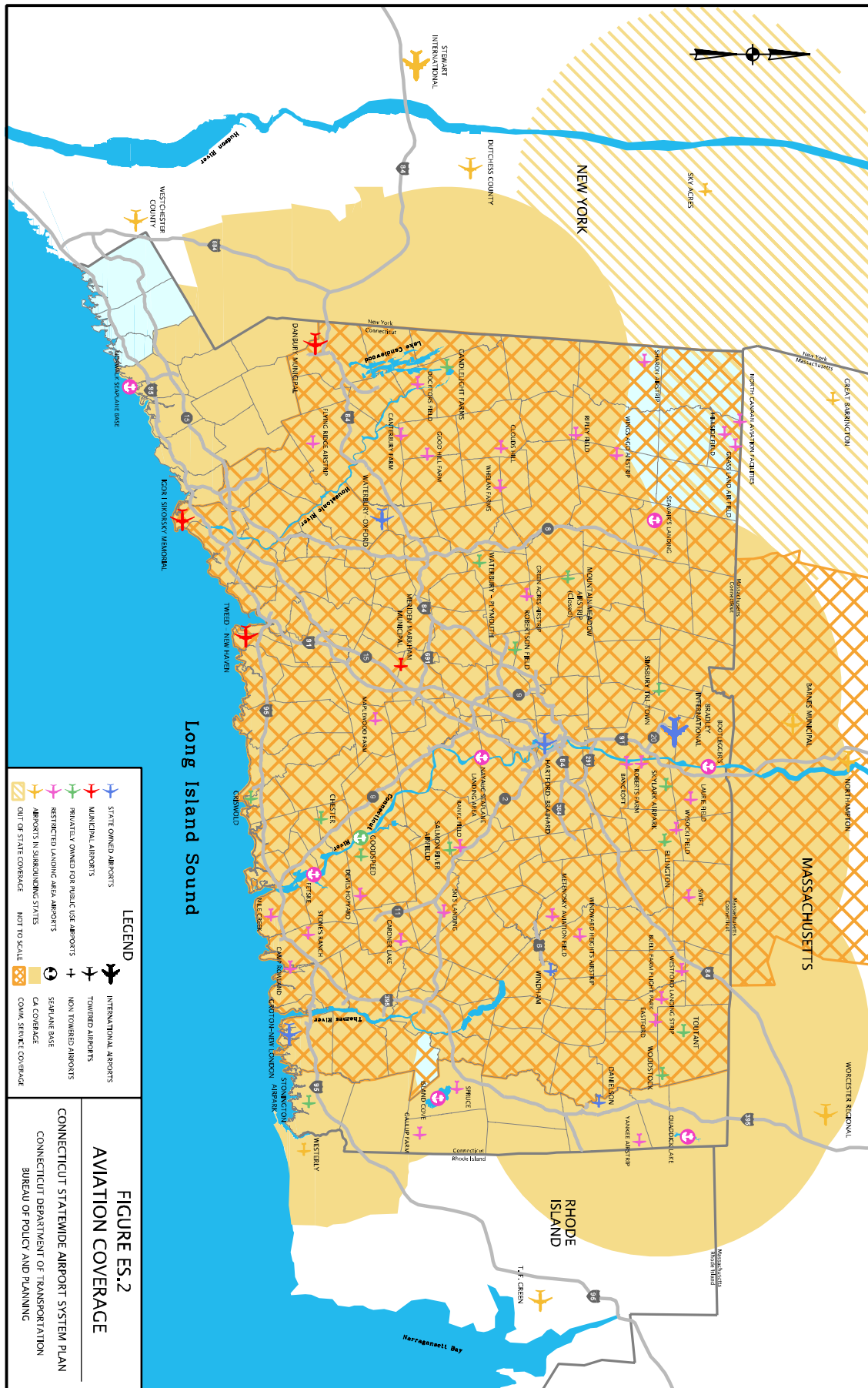
Table ES.8						
Airports Approaching or Exceeding 50 Percent Capacity in 2025						
	Airport Capacity	Operations	Percent Capacity	Airport Capacity	Operations	Percent Capacity
Airport Name	2004			2025		
Bradley International*	263,000	147,500	56%	270,000	214,700	80%
Groton New London	230,000	66,200	29%	230,000	114,500	50%
Hartford-Brainard	230,000	101,000	44%	230,000	137,800	60%
Bridgeport-Sikorski	200,000	80,500	40%	200,000	109,300	55%
Danbury Municipal	180,000	87,100	48%	180,000	145,700	81%
Robertson	148,000	61,600	42%	148,000	75,900	51%

ES.10 Status of Connecticut's Airport System

Connecticut is geographically a small state when compared to many States throughout the U.S. (it is the 48th smallest state, with 4,845 square miles of land, Alaska is the largest with 570,374 square miles.) Because Connecticut is geographically small, the services provided by general aviation and commercial service airports are essentially adequate throughout the State as can be seen in Figure ES.2. When determining this coverage, airports in surrounding States were included.

Different scenarios were considered that could impact the aviation system in Connecticut. Some of these scenarios include; the closing of an airport, the cessation or dramatic increase of scheduled commercial service at a regional airport, changes in operating procedures at an airport and modifications to aviation policy.

Some constraints affecting Connecticut airports include; noise issues, the availability and accessibility of land for expansion, environmentally sensitive areas, incompatible land use, FAR Part 77 obstructions, Coastal Area Management Zones, and political boundaries.



Funding

The Federal Aviation Administration (FAA) oversees the monies from the Airport and Airway Trust Fund. These monies support four areas of funding. The areas are Operations and Maintenance (O&M), Facilities and Equipment (F&E), Research, Engineering and Development (RE&D) and the Airport Improvement Program (AIP). O&M also receive money from the U.S. Treasury general fund. Funds for the AIP are used to support projects at the airports that are listed in the NPIAS while the other three areas of funding are used by FAA to support their agencies infrastructure and programs. The AIP is a federal grant program that represents a major source of funding for airport development and planning. The fund provides grants to eligible airports for safety, security, capacity enhancement and noise mitigation projects.

The overall objective of the AIP is to assist in the safety, security and development of the nationwide airport and airway system to insure the system is adequate to meet the current and projected growth of aviation.

There are generally five funding sources for airport development; airport cash flow, revenue and obligation bonds, AIP grants, Passenger Facility Charge (PFC's), and state and local grants. Some large airports are self sustaining but many smaller commercial service airports and general aviation airports count on government grants and obligation bonds. Of the six airports

owned and operated by the State, BDL is the only self-sustaining airport. BDL was established as an enterprise fund of the State in 1982. BDL is projected to fully fund it's operating, maintenance and capital improvement costs, including debt service.

Table ES.9 Commercial Service Airports - Entitlement Monies (FY 2005)		
Airport Name	Amount Received	
	Passenger	Cargo
Bradley International	\$1,532,140	\$667,870
Groton-New London	\$1,000,000	0
Tweed-New Haven	\$1,000,000	0
Total	\$3,532,140	\$667,870

Commercial service airports are eligible for entitlement money every year based on the number of passenger boardings from the previous year. Table ES.9 shows the amounts received by Connecticut airports in FY 2005. It should be noted that GON is in jeopardy of losing its entitlement monies because of the substantial reduction in passenger boardings.

ConnDOT received approximately \$2.0 million in apportionment money from FAA in FY 2005. ConnDOT's, Bureau of Aviation and Ports distributes these funds to state and municipal airports that are not eligible for entitlement money. These airports should have a capital improvement plan (CIP) showing what improvements they have planned, how much each improvement is expected to cost and a schedule for these projects. This helps ConnDOT decide the best use for the funding.

Connecticut General Assembly, Public Act No. 05-4 entitled "An Act Concerning the Authorization of Special Tax Obligation Bonds of the State for Certain Transportation

Purposes” Section 2 states, in part, that ConnDOT’s, Bureau of Aviation and Ports receives up to \$2 million for development and improvements of general aviation airport facilities, excluding BDL. \$200,000 of that money is earmarked for aid to municipal airports. This is generally used to supplement the 95% federal funding they receive. The state will contribute 3.75%, leaving the municipality responsible for 1.25% of the total cost of a project. The remaining \$1.8 million is for State airport projects. This money can be used as the 5% match to federal funding or for projects that are not eligible for federal funds. Again a CIP is helpful to both the airport and the State for financial planning purposes.

ES.12 Recommendations

Recommendations for better use and improvements to the system to meet the needs of all users will be determined following review and input on the draft document by the stakeholders. Recommendations are varied in their approach to maintaining and improving the aviation system in Connecticut. Below is an abbreviated list of recommendations that are recommended for Connecticut's system.

- Modifications to the airports included in the NPIAS.
- Recommendations for improving and maintaining capacity for airports, both for commercial and general aviation operations.
- Determining locations for forecasted based aircraft to be accommodated by reviewing this topic in future airport master plans at designated airports.
- Low interest loans for public use airports not eligible for federal or state funding for safety and maintenance projects.
- Techniques to preserve and reclaim obstruction free approach zones at airports.
- Perform a study of the economic impact that the public use airports have on the State and their local communities.
- Develop public awareness programs for airports.

ES.13 Strategic Plan

A strategic plan will be developed after review of this draft document by stakeholders.

ES.14 In Closing

Airports play a critical role as part of an overall transportation network. They provide access to regional, national and international markets for travelers and cargo. In addition to providing access to these markets, airports attract industry and generate jobs and revenue, resulting in positive economic impacts to surrounding communities.

Connecticut airports serve a wide range of activities for many different purposes including those for private pilots, public health and safety, corporate flights, cargo operations, and travelers for both business and pleasure. Most people benefit from these services in some way, therefore, the development and growth of these airports should be supported.